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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,803	04/11/2006	Iftah Gideoni	002152-0001-301	5245
1473 7590 02/22/2010 ROPES & GRAY LLP PATENT DOCKETING 39/361 1211 AVENUE OF THE AMERICAS NEW YORK, NY 10036-8704				
EXAMINER				
LOUIE, WAE LENNY				
ART UNIT		PAPER NUMBER		
3661				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/575,803

Applicant(s)

GIDEONI, IFTAH

Examiner

WAE LOUIE

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI.08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Interval Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beard et al (7,302,316) in view of Dapp et al (7,415,331).

Regarding applicant claim 1-14, 44, Beard discloses a **method for controlling an unmanned vehicle with a state machine on said UV comprising** (col.2, lines 40-67, “a control system for autonomously controlling an unmanned aerial vehicle”)

entering a state of said state machine (col. 3, line 11-23, “autopilot control system includes executable instructions on the on-plane control system that are executable by the processor”);

receiving an input on said UV (col.3, line 12-20, “executable instructions are configured to implement a method for estimating the attitude of the UAV, includes sampling the state variables that are provided in part by the accelerometers, rate gyroscopes”);

evaluating a condition of a rule corresponding to said state using said input; performing at least one action corresponding to said rule based on a result of said evaluating; and modifying said state machine (col.3, line 10-25, “once the state variables are sampled they are processed through a fixed gain Kalman Filter,

whereupon a new state variable estimates are calculated. The new state variable estimates are then stored in the on-plane memory”).

Although Beard does not disclose “reconfiguring said state machine as a new state machine,” Dapp discloses a system for controlling unmanned vehicles including a plurality of components to perform situation analysis, mission planning, mission replanning, mission plan execution, and collaboration between the autonomous unmanned vehicles (abstract). Dapp discloses the flexibility of the system by giving it different objectives to achieve (col.1, lines 34-50) and a goal may be to integrate these objectives and constraints with environmental state and system state to execute a mission plan in order to achieve given objectives without violating the given constraints.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the state machine of beard with the mission planning and replanning of Dapp in order to modify and reconfigure the state machine into a new state machine motivated by the flexibility and efficiency of such a system.

Regarding applicant claims 15-22, 33-43, 45, Beard discloses a method for **managing a first participant in a network of unmanned vehicles and ground stations wherein said network includes at least one other participant comprising** (abstract, col.2, lines 40-67, “a control system for autonomously controlling an unmanned aerial vehicle... a first set of sensors... a second set of sensors... furthermore, the on-plane control system may also have a global positioning system” col. 3, line 4-10, “ground station also includes an RC controller in electronic

communication with the processor. The RC controller may be used for manual control of the UAV if desired”):

Beard discloses **maintaining first state information about said first participant** as described above; but is silent concerning **transmitting an update of said first state information to said at least one other participant; maintaining second state information about said at least one other participant; and receiving an update of said second state information from said at least one other participant.**

Dapp et al discloses a system for controlling unmanned vehicles using a teams of collaborative autonomous unmanned vehicles in executing a mission plan. The system includes a plurality of components in order to perform situation analysis, mission planning, mission replanning, mission plan execution, and collaboration between the autonomous unmanned vehicles. It would have been obvious to one of ordinary skill in the art at the time of invention to utilize the state information of Beard with the collaboration approach of Dapp in order to extend the vision and reach of the autonomous vehicles (col. 1, lines 17-29).

Regarding applicant claims 23-32, Beard discloses a **system for controlling an unmanned vehicle with a state machine on said UV comprising** (col.2, line 40-67):

a sensor mounted on said UV (col. 2, line 45-50, “different sensors in electronic communication with the processor”);

a controller module mounted on said UV and coupled to said sensor (col. 2, line 45, "on-plane control system also includes a processor and memory in electronic communication with the processor");

a junction mounted on said UV coupled to said sensor and said controller module (col. 2, line 45, "on-plane control system"); and

a command unit mounted on said UV and coupled to said junction, wherein: said command unit is configured to control said UV using said controller module based on information from said sensor (col. 4, lines 45-60, "autopilot system 100 provides flight control of a UAV 101").

Although Beard does not use the term junction, it would have been obvious to one of ordinary skill in the art to equate the on-plane control system of Beard to the applicant's junction since it serves the same function of communicating between the sensors and controller.

Response to Arguments

Applicant's arguments with respect to claims 1-45 have been considered but are moot in view of the new ground(s) of rejection. Claims 1-45 are now rejected under 35 U.S.C. 103(a) as being unpatentable over Beard et al (7,302,316) in view of Dapp et al (7,415,331).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WAE LOUIE whose telephone number is (571)272-5195. The examiner can normally be reached on M-F 0700-1530.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on 571-272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/W. L./
Examiner, Art Unit 3661

/Thomas G. Black/
Supervisory Patent Examiner, Art Unit 3661